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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,728	04/02/2004	Takayuki Ishiguro	KY-198	9473

7590 01/29/2007  
MATTINGLY, STANGER & MALUR, P.C.  
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Alexandria, VA 22314

EXAMINER
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PHAM, HOA Q

ART UNIT	PAPER NUMBER
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2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/815,728

Applicant(s)

ISHIGURO, TAKAYUKI

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8 and 10-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2-3, 10-11, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagen et al (US 2002/0154298 A1).

Regarding claims 2, 10 and 16, Hagen discloses an optical system for detecting defect a edge portion of a rotated disk (12) which is translucent or transparent, comprising: an illumination system (10) for illuminating light beam (11) to inspected region (14) of said edge portion said rotatable disk (12) through an inside portion of said disk by directing the light beam (11) at a predetermined incident angle with respect to a peripheral surface of said disk to be inspected; and a first light receiving system (22) provided externally of said disk in a vicinity of said inspected region, receiving diffused light (noted that diffused light is scattered light with uniform density) from said inspected region (see paragraphs [0019-0020] and figure 1).

Regarding claims 3, 10-11 and 17-18, see "abstract" for glass disk and figure 1 for the light beam (11), which made a spot on an outer peripheral surface.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8, 12-15 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al in view of Brunfeld et al (6,294,793) and Dotan (5,355,213).

Regarding claims 4, 12 and 19; Hagen et al does not explicitly teach the use of an additional second light receiving system; however, such a feature is known in the art as taught by Brunfeld et al. Brunfeld et al, from the same field of endeavor, teaches the use of a plurality of light receiving systems of detecting the defects at the edge of and/or within the glass disk (figure 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Hagen et al an additional light receiving system if additional inspection is desired.

Regarding claims 5-6, 13-14, and 20, Hagen et al does not teach or suggest that the light source is a laser; however, such a feature is known in the art as taught by Dotan. Dotan, from the same field of endeavor, teaches the use of a laser source (column 4, line 54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the light source of Hagen et al by a laser source because they both use of detecting defects of a transparent material. In addition, Dotan suggests that any convenient electromagnetic radiation may be used, such as laser, xenon, halogen, etc.... (column 4, lines 51-59). It is also noted that figure 6 of

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Brunfeld et al teaches that the light receiving systems can be located at about 45 degrees with respect the surface of the disk.

5. Claims 7-8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al, Brunfeld et al and Dotan as applied to claims 2-6, 10-14 above, and further in view of Yoshiyama et al (6,078,385).

Hagen et al does not explicitly teach the use of an optical fiber for receiving light from test disk to the detector; however, such a feature is known in the art as taught by Yoshiyama et al. Yoshiyama et al, from the same field of endeavor, teaches the use of optical fibers (7,8) for transmitting scattered light from the test disk (1) the receivers (9,10) (figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include on Hagen et al an optical fiber taught by Yoshiyama et al for the purpose of transmitting scattered light to the detector. The rationale for this modification would have arisen from the fact that using such optical fiber would prevent light lost from the inspection system, thus increase the signal to noise ratio.

### ***Response to Arguments***

6. Applicant's arguments filed 11/1/06 have been fully considered but they are not persuasive. Applicant argues that Hagen et al does not teach light receiving system for receiving scattered light. The argument is not deemed to be persuasive because Hagen et al teaches that the reflecting light rays strike an anomaly, such as a crack or chip, in

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an edge surface of the disk, the light ray is diffused (paragraph [0019]). Applicant is noted that diffused light is scattered light with highly density; also, by the definition "diffuse" is "to scatter" or "spread about" (see WEBSTER'S II, New Riverside University Dictionary). It is believed that the rejections above are proper.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Henley et al (5,790,247) discloses a method for inspecting anomalies.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-

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2426. The examiner can normally be reached on 7:30AM to 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hoa Q. Pham  
Primary Examiner  
Art Unit 2877

HP  
January 19, 2007